

the positions. The means, therefore, of the twelve measurements of each maximum show positions of 517.4 and 547.3. No other maximum has been measured, but on one occasion another was suspected down in the blue, although its position could not be fixed.

The Ring Nebula in Lyra.

This nebula has a monochromatic spectrum, and eight measurements at different times give a mean of 5002 as the position of the line. One other line has been suspected but not definitely measured.

*Hurstside Observatory,
West Molesey, Surrey.*

*Spectroscopic Results for the Motions of Stars in the Line of Sight,
obtained at the Royal Observatory, Greenwich, in the year 1888.
No. XII.*

(Communicated by the Astronomer Royal.)

The results here given are in continuation of those printed in the *Monthly Notices*, vol. xxxvi. p. 318, vol. xxxvii. p. 32, vol. xxxviii. p. 493, vol. xli. p. 109, vol. xlii. p. 230, vol. xliii. p. 81, vol. xlii. p. 89, vol. xlv. p. 330, vol. xlv. p. 126, vol. xlvii. p. 101, and vol. xlviii. p. 116. The observations were made with the 'half-prism' spectroscope, one 'half-prism,' with a dispersion of about $18\frac{1}{2}^\circ$ from A to H, being used throughout. A magnifying power of 14 was employed.

The cylindrical lens has always been used in front of the slit as in the observations made previously to 1881 and since 1882, March 14. The observations of the Sun, Moon, and planets have been made as a check on the general accuracy of the results.

The day specified in the first column is the civil day, and the hour is that of Greenwich civil time, commencing at Greenwich mean midnight, and reckoning from 0 to 24 hours.

The observations were made by Mr. Maunder throughout.

*Motions of Stars in the Line of Sight in Miles per Second, observed with the
Half-prism Spectroscope.*

(+ denotes Recession; —, Approach).

Date. 1888.	No of Meas.	Line.	Earth's Motion in miles per sec.	Concluded Motion of Star. Meas. Estimd.	Remarks.
<i>γ Cassiopeiæ.</i>					
Dec. 13 ^h 20	2	F	+ 8.0	+ 7.1 + 10.2	Spectrum faint and very tremulous.
<i>Algol.</i>					
Feb. 1 20	2	F	+ 17.1	— 49.8 — 52.0	Spectrum faint but steady,
Dec. 7 20	2	F	+ 6.4	— 101.8 — 120.0	Spectrum rather faint and tremulous; definition poor.

Date. 1888.		No. of Meas.	Line.	Earth's Motion in miles per sec.	Concluded Motion of Star. Meas. Estimd.		Remarks.
<i>α Persei.</i>							
Feb.	1	20	4	F	+ 15.5	- 20.9 - 16.8	Spectrum bright and steady; definition fair.
Dec.	7	20	2	F	+ 4.4	- 7.4 - 4.4	Spectrum fairly bright and steady; definition of star- line only fair.
<i>Aldebaran.</i>							
Feb.	1	21	2	F	+ 16.9	+ 9.6 + 21.5	Spectrum fairly bright and steady; star-line narrow and faint.
Dec.	7	23	2	F	+ 2.7	+ 27.9 + 29.1	Spectrum bright and steady; star-line rather faint.
<i>Capella.</i>							
Dec.	7	21	2	F	- 1.2	+ 30.2 + 28.5	Spectrum bright and steady.
<i>Rigel.</i>							
Feb.	1	21	4	F	+ 13.6	+ 11.0 + 17.4	
Mar.	5	21	2	F	+ 16.0	+ 22.9 + 20.5	Spectrum faint and very tremulous.
Dec.	7	23	2	F	+ 0.3	+ 25.5 + 36.0	Spectrum tremulous but bright.
<i>β Tauri.</i>							
Feb.	1	22	2	F	+ 14.7	- 7.7 + 1.1	
Dec.	7	22	2	F	- 1.6	- 4.1 - 7.5	Star-line diffused but not very broad; spectrum seen well.
<i>γ Orionis.</i>							
Feb.	1	22	4	F	+ 14.5	+ 1.5 + 7.3	
Dec.	7	23	2	F	- 1.0	- 25.6 - 30.8	Spectrum fairly bright and steady; star-line faint.
<i>δ Orionis.</i>							
Feb.	1	22	2	F	+ 13.6	+ 6.3 + 14.4	Spectrum steady and fairly bright; star-line very faint.
<i>ε Orionis.</i>							
Feb.	1	23	2	F	+ 13.3	- 10.9 - 2.8	Spectrum bright and steady; star-line seen fairly well; definition good.
<i>ζ Orionis.</i>							
Feb.	1	23	4	F	+ 13.0	- 36.1 - 41.0	Spectrum bright and fairly steady; star-line faint.
<i>β Aurigæ.</i>							
Dec.	7	22	2	F	- 3.7	+ 32.5 + 40.1	Spectrum faint, definition fair; star-line very broad and diffused.
<i>Sirius.</i>							
Feb.	2	0	6	F	+ 7.3	- 24.5 - 24.5	Spectrum very bright but very unsteady.

Jan. 1889. *in the Line of Sight, obtained at Greenwich.*

129

Date. 1888.	No. of Line.		Earth's Motion in miles per sec.	Concluded Motion of Star. Meas. Estimd.		Remarks.
<i>Sirius.</i>						
Mar.	5	22 ^h	6 F	+12.8	-37.4 -35.8	Spectrum bright but tremu- lous; star-line seen well.
Dec.	8	0	2 F	-6.4	+17.9 +20.1	Spectrum bright but very tremulous; star-line very broad, ill-defined and dif- fused.
<i>Castor.</i>						
Mar.	6	0	2 F	+15.4	-6.9 -5.3	Spectrum bright and steady; star-line dark but very broad and diffused.
	22	0	2 F	+17.4	-0.4 -0.6	Spectrum faint but fairly steady; star-line seen fairly well.
<i>Procyon.</i>						
Mar.	5	23	4 F	+14.0	-17.7 -16.0	Spectrum bright and fairly steady; definition good; star-line seen well.
	21	23	2 F	+16.4	-3.5 -2.8	Spectrum faint and tremu- lous; star-line faint; defi- nition bad; measures made with difficulty.
Dec.	8	0	2 F	-11.2	+25.8 +24.9	Spectrum bright and steady; star-line seen well.
<i>Pollux.</i>						
Mar.	5	23	2 F	+15.0	-48.0 -47.5	Spectrum bright and steady; star-line faint; measures made with difficulty.
	21	23	2 F	+17.3	-43.3 -40.0	Spectrum faint and tremu- lous; star-line faint; defi- nition bad; measures made with difficulty.
<i>Regulus.</i>						
Mar.	22	0	2 F	+10.2	+2.9 +5.4	Spectrum fairly bright but tremulous; star-line seen fairly well.
May	7	22	2 F	+17.7	-8.5 -2.1	Spectrum fairly bright and steady; star-line very ill- defined and diffused.
<i>β Leonis.</i>						
May	7	23	2 F	+14.9	+46.0 +47.7	Spectrum faint but steady; star-line dark but diffused.
<i>α Canum Venaticorum.</i>						
May	23	22	2 F	+12.9	-44.7 -45.1	Spectrum fairly bright and steady; star-line well seen.
<i>Spica.</i>						
May	7	23	2 F	+7.7	-31.2 -38.1	Spectrum fairly bright and steady; star-line not very broad, and but little dif- fused.
	23	23	2 F	+11.7	-38.3 -30.5	Spectrum very tremulous; star-line rather faint; mea- sures made with difficulty.

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Date. 1888.	No. of Meas.	Line.	Earth's Motion in miles per sec.	Concluded Motion of Star. Meas. Estimd.	Remarks.
<i>Arcturus.</i>					
May 7 ^h 23	2	F	+ 6.6	-37.5 -48.3	Spectrum bright and steady ; star-line narrow but rather faint.
23 23	2	F	+ 10.0	-41.0 -36.9	Spectrum very bright but rather tremulous ; star- line faint, and seen with difficulty.
<i>γ Bootis.</i>					
May 24 0	2	F	+ 8.5	-27.4 -27.8	Spectrum bright but rather tremulous ; star-line faint and diffused ; measures made with great difficulty.
<i>β Libræ.</i>					
May 24 1	2	F	+ 4.7	-42.8 -42.3	Spectrum rather faint and tremulous ; star-line ill- defined, and bisected with difficulty.
<i>α Coronæ Borealis.</i>					
May 8 0	4	F	+ 1.6	+28.9 +42.4	Spectrum bright and steady ; star-line dark and some- what diffused.
24 2	2	F	+ 4.9	+21.8 +19.3	Spectrum fairly bright and steady ; definition good.
<i>α Ophiuchi.</i>					
May 8 0	2	F	- 8.0	-24.5 -40.7	Spectrum fairly bright and steady ; star-line broad and diffused.
<i>Vega.</i>					
May 24 2	2	F	- 5.5	-39.3 -37.4	Spectrum bright and steady ; star-line well seen ; defi- nition good.
<i>Mars.</i>					
May 7 23	5	F		+ 1.8 + 2.1	Spectrum bright and steady. Computed motion, +3.7 miles per second.

Moon.

Date.	No of Meas.	Line.	Motion Measured.	Remarks.
Feb. 2 ^h 0	5	F	-0.3	The coincidence of the two spectra appeared perfect.
Mar. 21 22	5	F	-1.8	
May 24 0	5	F	-2.3	

Sun.

Dec. 10 13	5	F	+ 5.4	Direct comparison showed no perceptible want of coincidence between the two spectra, although the measures all gave the solar F line slightly to the red of the H β line.
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Observations of Comet e 1888, made with the Transit Circle at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

Greenwich Mean Solar Time.	Observer.	R.A.		N.P.D. (Corrected for Refraction, Parallax and R-D).		Remarks.
		h	m s	°	' "	
1888, Dec. 22 6 34 59	A. P.	0	41 56.66	97	39 34.19	Cloudy.
26 6 8 30	T.	0	31 9.73	97	33 9.24	Scarcely visible.
31 5 37 44	T.	0	20 1.76	97	20 35.94	Very faint indeed; only a confused mist.
1889, Jan. 1 5 31 51	L.	0	18 4.56	97	17 36.98	Very faint.

The observations were made in a dark field with wires illuminated.

The initials T., L. and A. P., are those of Mr. Thackeray, Mr. Lewis, and Mr. A. Pead.

The observations of this comet, printed in vol. xlix. p. 83, are not corrected for R-D. The corresponding corrections to N.P.D. are for November 27 and December 1 + 0".55; for December 5, 7, and 12, + 0".56.